

Appl. No. : 10/823,304
Filed : April 13, 2004

REMARKS

Claims 18-22 remain pending in the present application, Claim 18 has been amended, and new Claims 52-56 having been added. The claims set forth above include marking to show the changes made by way of the present amendment, deletions being in ~~strikeout~~ and additions being underlined.

In response to the Office Action mailed March 2, 2005, Applicant respectfully requests the Examiner to reconsider the above-captioned application in view of the foregoing amendments and the following comments.

Claim Rejections

Claims 18, 21 and 23 stand rejected under 35 U.S.C. 102(e) as anticipated by Shajii et al (USPN 6,610,968). Claims 18, 21 and 23 stand rejected under 35 U.S.C. 103(a) as unpatentable over Shajii.

Applicant respectfully disagrees with the rejection of these claims. Nevertheless, as outlined below, to advance prosecution Applicant has amended independent Claim 18 to more distinctly and particularly claim certain features and aspects of an embodiment of Applicant's invention.

Shajii discloses a system that employs a control facility for controlling the temperature of the wafer by moving the wafer within a thermal processing furnace. Col. 4, lines 48-53. The temperature profile within the furnace is fixed. Col. 5, lines 48-50. A feed back system detects the temperature of the wafer and moves the wafer through the furnace to achieve a desired temperature profile. Col. 6, lines 50-60.

In contrast, Claim 18 (as amended) recites, in part, a device for the heat treatment of a series of substrates, comprising "at least one temperature sensor configured to measure the temperature in said heating body and arranged in said heating body near to said flat surface such that withdrawal of heat from said heating body by said substrate is detected, wherein said heating means are connected to said control means, wherein said temperature sensor is connected to said control means, transport means for positioning substrates in the vicinity of said heating body adjacent to said flat surface and for removing substrates therefrom, wherein said transport means are connected to said control means, said control means being provided with extrapolation software for extrapolating over a time interval the temperature measured by said temperature sensor, and said control means arranged in such a way that each of said substrates is positioned in

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the vicinity of said heating body when the temperature extrapolated over said time interval has reached a desired temperature value. (Underlining indicating language added in this amendment)

There is no disclosure in Shajii for extrapolating the temperature of the heating body over a time interval or positioning the substrates in the vicinity of said heating body when the temperature extrapolated over said time interval has reached a desired temperature value. Instead, as noted above, in Shajii, the temperature of the heating bodies are fixed. In contrast, the claimed device is particularly advantageous for providing a reproducible thermal budget in quick heating processes in which the substrate itself changes the temperature of the heating body and when the temperature of the heating body is varies over time. See e.g., Col. 10, lines 10-15. However, there is simply no disclosure in Shajii for extrapolating the temperature of the heating bodies over time to address these situations.

For at least the reasons set forth above, Applicant submits that Claims 18-23 cannot be anticipated by or obvious over Shajii.

With respect to Claims 19, 20 and 22, the Examiner states that it would have been obvious to modify Shajii in order the meet the claimed "the specific placement of the temperatures at any particular point within the hating body (10) or the use of multiple heating bodies rather than the single heating body." Applicant respectfully disagrees. First respect to the position of the sensors in Claims 19 and 20, the Examiner states that the sensors of Shajii "operate in substantially the same manner in order to perform substantially the same function with substantially the same results." However, as noted above, the claimed device is configured to measure the temperature of the heating bodies and extrapolate the temperature of the heating bodies over a time interval. As described at Col. 6, lines 20-30, the close placement enables the detection of the heat withdrawal due to the placement of the substrate next to the heating body. With respect to Claim 22, as noted above, there is no simply no teaching for extrapolating the temperature of the heating body over a time interval in Shajii.

New Claims

Applicant has added new Claims 52-56. These claims are also in condition for allowance because they depend upon allowable Claim 18 and they recite additional patentable subject matter.

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CONCLUSION

For the foregoing reasons, it is respectfully submitted that the rejections set forth in the outstanding Office Action are inapplicable to the present claims. Accordingly, early issuance of a Notice of Allowance is most earnestly solicited.

The undersigned has made a good faith effort to respond to all of the rejections in the case and to place the claims in condition for immediate allowance. Nevertheless, if any undeveloped issues remain or if any issues require clarification, the Examiner is respectfully requested to call Applicant's attorney in order to resolve such issue promptly.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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